

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **04285118 A**

(43) Date of publication of application: **09.10.92**

(51) Int. Cl

C21D 8/00
C22C 38/00
C22C 38/58

(21) Application number: **03048058**

(22) Date of filing: **13.03.91**

(71) Applicant: **NIPPON STEEL CORP**

(72) Inventor: **ISHIKAWA FUSAO**
TAKAHASHI TOSHIHIKO

(54) **PRODUCTION OF HOT FORGED
NON-HEATTREATED STEEL HAVING HIGH
STRENGTH AND HIGH TOUGHNESS**

(57) Abstract:

PURPOSE: To improve yield strength by specifying the chemical composition and heat treatment conditions of a hot forged non-heat treated steel, respectively.

CONSTITUTION: A steel which has a composition containing, by weight, 0.1-0.6% C, 0.05-3.0% Si, $\leq 3.0\%$

Mn, 0.001-0.3% S, 0.03-0.3% V, 0.005-0.06% N, one or two kinds among $\leq 3.0\%$ Cr, $\leq 3.0\%$ Ni, $\leq 1.0\%$ Mo, and $\leq 2.0\%$ Cu, and one or two kinds among 0.001-0.05% Ti, 0.005-0.1% Nb, and 0.005-0.1% Al is hot-forged and is cooled slowly from an arbitrary temp. not higher than 500°C down to room temp. in the course of cooling. By this method, the hot forged non-heat treated steel having high strength and high toughness can be obtained.

COPYRIGHT: (C)1992,JPO&Japio